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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,771	09/24/2003	E. Stuart Savage	TETRP040CIP	4365
37334	7590	01/11/2005	EXAMINER	
D'AMBROSIO & ASSOCIATES, P.L.L.C.			CINTINS, IVARS C	
10260 WESTHEIMER			ART UNIT	
SUITE 465			PAPER NUMBER	
HOUSTON, TX 77042			1724	

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/669,771	<b>Applicant(s)</b> SAVAGE ET AL.	
	<b>Examiner</b> Ivars C. Cintins	<b>Art Unit</b> 1724	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 October 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 8 and 15 are again rejected under 35 U.S.C. 102(b) as being clearly anticipated by Nebolsine (U.S. Patent No. 4,128,477). See col. 1, lines 6, 11 and 35; col. 2, line 31; col. 3, line 2; col. 4, lines 2-3, 35-37 and 53-54; col. 6, lines 19-21 and 35-38; col. 7, lines 10-11, 14, 23-24, 50-56 and 61; col. 8, lines 21-23; and col. 9, lines 17-19.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 7, 9-14 and 16-23 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Nebolsine in view of Maxson (U.S. Patent No. 5,156,738). As pointed out in the previous Office action, Nebolsine discloses the claimed invention with the exception of the flow rates of the backwash fluids (claims 6, 7, 12, 13, 18 and 19), the air only backwash treatments (claims 9-11), the duration of the backwash treatment (claims 14 and 20), and the frequency of the backwash treatment (claims 16-23). Maxson discloses backwashing a filter bed, and teaches air only backwashing followed by water backwashing (see col. 1, lines 26-32). This reference further teaches backwashing at the recited flow rates (col. 1, lines 20, 28 and 32), for the recited duration of time (col. 1, line 25), at the recited frequency (col. 1, lines 24-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to

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backwash the filter bed of Nebolsine in the manner taught by Maxson, since this secondary reference teaches that filter beds are typically backwashed in this manner (see col. 1, lines 17-36). Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include an additional air only backwashing treatment after the water backwashing in the thus modified primary reference, as recited in claims 10 and 11, in order to further promote the destruction of BOD components in the sewage undergoing treatment. Such modification is deemed to be especially obvious in view of the disclosure by Nebolsine that air may be added to the filtrate from the deep bed filter, in order to increase its level of dissolved oxygen (see col. 8, lines 21-23; and col. 9, lines 17-19).

Applicant's arguments filed October 8, 2004 have been noted and carefully considered but are not deemed to be persuasive of patentability. Applicant argues that Nebolsine does not disclose a deep bed filter for processing raw, untreated sewage without prior processing; pointing out that this reference carries out the following steps prior to deep bed filtration: (1) removing dense suspended particulate materials from the fluid undergoing treatment; (2) passing the fluid through a fine mesh screen; and (3) introducing coagulant into the fluid. It is pointed out, however, that claim 1 merely requires piping raw, unsettled wastewater to a deep bed filter, without pretreatment in a facultative zone; filtering this wastewater with the deep bed filter; and backwashing the deep bed filter. The Nebolsine process carries out all of these process steps. Raw unsettled (see col. 7, lines 10-11) wastewater is piped to, and filtered through, a deep bed filter (col. 3, line 2) without any pretreatment in a facultative zone, and the deep bed filter is periodically cleansed by backwashing (col. 7, line 61). Applicant should note that claim 1 does

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not preclude the additional separation treatments employed by Nebolsine because of the “comprising” language in the second line of this claim.

Applicant also argues that Applicant’s course screening utilizes a screen with 6.0 mm openings, whereas Nebolsine utilizes a screen which removes particles larger than 70 microns. This argument has been noted and carefully considered, but is not deemed to be persuasive of patentability. As explained above, the claims do not preclude the fine screening treatment of the Nebolsine process; and therefore, the fact that this reference employs such fine screening is not deemed to be persuasive of patentability for these claims.

Applicant further argues that it would not have been obvious to backwash the filter bed of Nebolsine in the manner taught by Maxson because Nebolsine requires special backwashing facilities. Again, this argument has been noted and carefully considered, but is not deemed to be persuasive of patentability. The “special backwashing facilities” called for by Nebolsine is merely a system capable of providing backwash water and air at flow rates which are high enough to adequately cleanse the filter bed (see col. 7, lines 37 and 61-62). Accordingly, one of ordinary skill in the liquid purification art would have been motivated to employ the air only backwashing followed by water backwashing taught by Maxson (see col. 1, lines 26-32) at high enough flow rates to adequately cleanse the filter bed of the primary reference.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after


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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is (571) 272-1155. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Duane Smith, can be reached at (571) 272-1166.

The centralized facsimile number for the USPTO is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Ivars C. Cintins  
Primary Examiner  
Art Unit 1724

I. Cintins  
January 7, 2005